

## INDUSTRIAL BASE ASSESSMENT: NASA Supply Chain Network



### SCOPE OF ASSESSMENT

The U.S. Department of Commerce, Bureau of Industry and Security (BIS), Office of Technology Evaluation (OTE), in coordination with the National Aeronautics and Space Administration (NASA), Exploration Systems Mission Directorate (ESMD), is conducting an industrial base survey of NASA's supply chain network. The principal goal of this data collection is to analyze the health and competitiveness of this U.S. supplier segment. The data collected will also be used to measure the industrial base impacts attributed to both the retirement of the Space Shuttle program and NASA's transition from the Constellation program.

### RESPONSE TO THIS SURVEY IS REQUIRED BY LAW

A response to this survey is required by law (50 U.S.C. app. Sec. 2155). Failure to respond can result in a maximum fine of \$10,000, imprisonment of up to one year, or both. Information furnished herewith is deemed confidential and will not be published or disclosed except in accordance with Section 705 of the Defense Production Act of 1950, as amended (50 U.S.C App. Sec. 2155). Section 705 prohibits the publication or disclosure of this information unless the President determines that its withholding is contrary to the national defense. Information will not be shared with any non-government entity, other than in aggregate form. The information will be protected pursuant to the appropriate exemptions from disclosure under the Freedom of Information Act (FOIA), should it be the subject of a FOIA request.

Notwithstanding any other provision of law, no person is required to respond to nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number.

### BURDEN ESTIMATE AND REQUEST FOR COMMENT

Public reporting burden for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information to BIS Information Collection Officer, Room 6883, Bureau of Industry and Security, U.S. Department of Commerce, Washington, D.C. 20230, and to the Office of Management and Budget, Paperwork Reduction Project (OMB Control No.0694-0119), Washington, D.C. 20503.

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**Section II WHO MUST RESPOND TO THIS SURVEY**

Please select the description(s) that most closely reflects your company.

1.	My company has manufactured products and/or provided services, including integration, R&D, or software, for the National Aeronautics and Space Administration (NASA) since January 2000.					
2.	Has your company, directly or indirectly, performed any work for NASA since January 2007?					
If you selected "Yes" to either of the above questions, identify the corresponding programs your company has supported, if known, and continue completing this survey.						
3.	Space Shuttle		International Space Station		Constellation	
	Science Mission Directorate (SMD)		Aeronautics Research Directorate (ARD)		Other NASA	
4.	If you selected "No," complete "Exemption From Survey" below.					

**EXEMPTION FROM SURVEY**

If your operations have not involved any NASA business since 2000, you may be exempt from completing this U.S Government survey. Please call one of the BIS contacts listed in the "General Instructions" to verify your status. Then complete steps 5-7 below.

Briefly explain the products and/or services provided by your organization in the space below:	
5.	
Before 2000, did your company do any work for NASA? If "Yes," describe the products and/or services below.	
6.	
Please complete and print out the "Certification" page. Then return a signed copy of the "Certification" page only after your Empowered Official or Point of Contact has confirmed your company's exemption by speaking with one of our staff. Please transmit the "Certification" to our offices via U.S. mail, express courier, e-mail, or fax (202) 482-5361.	
7.	

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Section III General Instructions		
A.	BIS will only accept Excel versions of this survey that are downloaded and saved from <a href="http://www.bis.doc.gov/NASA_Survey">http://www.bis.doc.gov/NASA_Survey</a> . Before making inputs make sure to save a copy of the Excel survey to your computer.	
B.	For your convenience and internal data collection/reference purposes only, a PDF version of the survey is made available on the BIS web link. Do not submit the PDF version. BIS will only accept the Excel version.	
C.	Upon completion, review, and certification of the survey please transmit the Excel survey document by e-mail to the secure, U.S. Federal Government e-mail address at <a href="mailto:NASA_Survey@bis.doc.gov">NASA_Survey@bis.doc.gov</a> .	
D.	Questions related to this questionnaire should be directed to: <a href="mailto:NASA_Survey@bis.doc.gov">NASA_Survey@bis.doc.gov</a> (preferred method of contact for survey questions)	
	Jason Bolton, Trade and Industry Analyst, (202) 482-5936 Michael Finucane, Trade and Industry Analyst, (202) 482-3893 Meaghan Archer, Trade and Industry Analyst, (202) 482-2081 Valerie Goldman, Trade and Industry Analyst, (202) 482-5415 Erika Maynard, Trade and Industry Analyst, (202) 482-5572	
E.	Upon completion, review and certification of the survey, transmit the survey via e-mail to <a href="mailto:NASA_Survey@bis.doc.gov">NASA_Survey@bis.doc.gov</a>	
F.	For letter correspondence or program questions to the Office of Technology Evaluation (OTE), please write to:	
	Brad Botwin, Director, Industrial Studies Office of Technology Evaluation, Room 1093 U.S. Department of Commerce	
	1401 Constitution Avenue, NW Washington, DC 20230	
	Please do not submit completed surveys to this address; all surveys must be submitted electronically.	
	Brad Botwin can also be reached at <a href="mailto:bbotwin@bis.doc.gov">bbotwin@bis.doc.gov</a> or (202) 482-4060.	
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Section V

Definitions

Term	Definition
Applied Research	R&D research expenditure category dedicated to the application of findings from basic research toward discovering new scientific knowledge that has specific commercial objectives with respect to new product, services, processes, or methods [National Science Foundation].
Authorizing Official	Executive officer of the company or business unit or other individual who has the authority to execute this survey on behalf of the firm.
Basic Research	R&D research expenditure category dedicated to the pursuit of new scientific knowledge or understanding that does not have specific immediate commercial objectives with respect to new products, services, processes, or methods [National Science Foundation].
CAGE Code	Commercial and Government Entity (CAGE) Code identifies companies doing or wishing to do business with the U.S. Federal Government. The code is used to support mechanized government systems and provides for a standardized method of identifying a given facility at a specific location. The code may be used for a Facility Clearance, a Pre-Award survey, automated Bidders Lists, pay processes, source of supply, etc. In some cases, prime contractors may require their sub-contractors to have a CAGE Code.
Capacity Utilization	The extent to which an enterprise uses its total annual installed manufacturing capacity.
Commercial Human Spaceflight	Non-government, non-NASA industry operated human carrier spaceflight services, systems, or hardware. This would include business lines in support of human spaceflight tourism or ISS "taxi" support.
End-User	Entity responsible for the intended application or use of a particular product or service.
Export Controls	Meaning U.S. administered laws, regulations, or lists governing the export of space-related dual-use and/or munitions items from the U.S. to non-U.S. customers and end-users. These include the Arms Export Control Act of 1976, the Export Administration Regulations (EAR), the International Traffic in Arms Regulations (ITAR), the Commodity Control List (CCL), and the U.S. Munitions List (USML).
Full Time Equivalent (FTE) Employees	Employee in each labor type/function area based on a 40 hour work-week. NASA suppliers should allocate no less than 1/4 of a person to a particular function and also convert part-time employees into "full-time" equivalent, e.g. 10 part-time employees working 20 hours per week for a full 12 month period are the full-time equivalent of 5 full-time employees for that 12 month period.
Human Spaceflight	Manned spaceflight programs (commercial or government run) containing manned vehicles (orbiters) like the Space Shuttle or Orion.
Joint Venture	A contractual agreement joining together two or more parties for the purpose of executing a particular business undertaking. All parties agree to share in the profits and losses of the enterprise.
Merger and Acquisition	Business activity involving the combination of two companies (merger) to form a new single company or the purchase of one company by another (acquisition) in which no new company is formed.
NAICS Code	North American Industry Classification System (NAICS) codes identify the category of product(s) or service(s) provided by your company. Find NAICS codes at <a href="http://www.census.gov/epcd/www/naics.html">http://www.census.gov/epcd/www/naics.html</a>

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Orbiter	Reusable human spacecraft used in the Space Transportation System (STS), e.g. Atlantis, Challenger, Columbia, Discovery, and Endeavor. The orbiter, also known as the orbiter vehicle, contains both the astronauts and payload on STS/Space Shuttle missions.
Orion	Human spacecraft formally known as the Crew Exploration Vehicle (CEV) and part of the Constellation program.
Process/Product Development	R&D development expenditure category dedicated to the systematic use of the knowledge or understanding gained from research or practice experience directed toward the production of significant improvement of useful products, services, processes, or methods, including the design and development of prototypes, materials, devices, and systems [National Science Foundation].
Space-Related	Refers to all product, service, and technology categories enumerated in this survey's Product and Service Type List.
Space Transportation System (STS)	Includes the Space Shuttle and all NASA facility operations in support of Space Shuttle launch. NASA will have performed 134 STS missions from 1982-2010.
Total Operating Expenses	Income Statement line item reflecting expenses related to primary business operations. This includes Research and Development (R&D); Selling, General, and Administrative (SG&A); Non-Recurring; and Other operating expenses. For BIS assessment purposes, Interest Expense and Tax Expense are not included in Total Operating Expenses.
Total Operating Income	Income Statement line item reflecting Gross Margin or Gross Profit less Total Operating Expenses.
United States	The "United States" or "U.S." includes the 50 states, Puerto Rico, the District of Columbia, the island of Guam, the Trust Territories, and the U.S. Virgin Islands.
Utilization Rate	Percentage measure of production capacity use based on a 7 day-a-week, 3x8 hour shift production schedule.

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**Section 1.a Company Information**

<b>U.S. Address Only</b>					
	Name of Company	Street Address	City	State	Zip Code
A.					
	Internet Home Page		Phone Number	Fax Number	
<b>Business Identification Information</b>					
B.	Data Universal Numbering System (DUNS) Number(s)*		Space-related NAICS (6-digit) Code(s)**		* Find your company's DUNS number(s) at <a href="http://www.usitc.gov/index.htm">http://www.usitc.gov/index.htm</a>
					** North American Industry Classification System (NAICS) codes identify the category or product(s) or service(s) provided by your company. Find NAICS codes at <a href="http://www.census.gov/epcd/www/naics.html">http://www.census.gov/epcd/www/naics.html</a>
	Commercial and Government Entity (CAGE) Code(s)		Space-related Harmonized Tariff Schedule (HTS) (10-digit) code(s)***		*** Harmonized Tariff Schedule (HTS) codes (10-digit) can be found at "HTS Online Resource Tool" located under "Research Tools" at <a href="http://www.ustic.gov/index.htm">http://www.ustic.gov/index.htm</a>
<b>Primary Point of Contact Regarding Survey Completion</b>					
C.	Name(s)	Phone Number	State	E-mail Address	
<b>Business Description</b>					
From the drop-down select the business lines describing your company's primary focus. Provide a short description of the corresponding business lines next to each selected category. If your company has more than one dominant focus, rank them 1st-3rd by net sales.					
D.		Business Lines	Additional Description		
	1.				
	2.				
	3.				
Comments					
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<b>Section 1.b Company Information (cont.)</b>			
A.	Identify the certifications that your company currently has below:		
	AMS (specify)		ISO TS16948
	ANSI/ASQC Z1.4		J-STD-001DS
	ANSI/ESD S20.20		MIL-Q-9858
	ANSI/ISO/IEC 17025		MIL-STD-45662 A
	DoD 5000		NADCAP (specify)
	ISO 9000		NCLS (specify)
	ISO 9001		SAE AS9003
	ISO 10012-1		SAE AS9100
	ISO 14000		Other (specify)
* AMS (Aerospace Material Specifications)      * NADCAP (National Aerospace and Defense Contractors Accreditation Program) * ANSI (American National Standards Institute) * ASQ (American Society for Quality)      * NCLS (National Clinical Lab Specialist) * ISO (International Organization for Standards)      * SAE (SAE International, formerly the Society of Automotive Engineers)			
B.	How does your company sell its products or services to NASA?		
<b>Company Ownership</b>			
My company is headquartered in:			
I am the parent company:			
C.	I am a U.S. subsidiary of a non-U.S. parent company:		
I am a business unit or division of a U.S. parent company or organization:			
Parent Company Name, if applicable      City      State      Country			
Comments:			
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<b>Section 2.a Product and Service Type Listing</b>					
Identify the NASA Space Shuttle, International Space Station (ISS), or Constellation program elements in which your company has participated.					
HSFPE1	Ares		HSFPE9	ISS - International Space Station	
HSFPE2	Altair Lunar Lander		HSFPE10	Launch Abort System	
HSFPE3	Ares Upper Stage		HSFPE11	Orbiter	
HSFPE4	Ares Upper Stage Engines		HSFPE12	Orion	
HSFPE5	CaLV - Cargo Launch Vehicle (e.g. Ares V)		HSFPE13	RSRM - Reusable Solid Rocket Motor	
HSFPE6	CLV - Crew Launch Vehicle (e.g. Ares 1)		HSFPE14	Service Module	
HSFPE7	ET - External Tank		HSFPE15	SRB - Solid Rocket Booster	
HSFPE8	EVA - Extravehicular Activity		HSFPE16	SSME - Space Shuttle Main Engine	
Comments:					
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Section 2.b		Product and Service Type Listing				
Indicate the product and service type codes corresponding to your company's <u>current</u> business lines and indicate whether the end-user is "NASA," "DoD," "Commercial," "Other," or "Not Sure." Blank or "No" responses mean your company presently has no corresponding business lines.						
A	Services	NASA	DoD	Commercial	Other	Not Sure
A1	Commercial Satellite Operation					
A1A	Broadcast					
A1B	Communication/Data					
A1C	Remote Sensing					
A2	Professional Services					
A2A	Spacecraft					
A2A1	Product Assurance, Quality Control, Safety					
A2A2	Assembly, Integration and Testing					
A2A3	Systems Engineering					
A2A4	Program Management					
A2A5	Performance, Analysis and Simulation					
A2A6	Architecture Design					
A2B	Launch					
A2B1	Operations					
A2B2	Product Assurance, Quality Control, Safety					
A2B3	Assembly, Integration and Testing					
A2C	Ground					
A2C1	Operations					
A2C2	Maintenance					
A2D	Research and Development					
A2D1	Aeroscience					
A2D2	Atmospheric/Sub-Orbital Flight					
A2D3	Biomedical Affects of Space Flight					
A2D4	Materials					
A2E	Testing					
A2E1	Acoustics					
A2E2	Vibration					
A2E3	Aeronautics Ground					
A2E4	Aeronautics Flight					
A2E5	Thermal Vacuum Chamber					
A2E6	Materials					
A2E7	Mechanical Systems					
A2F	Crew Operations and Training					
A2G	Space Medicine					
A2H	Human Factors Engineering					
A3	Other (specify)					
Comments:						

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**Section 2.c Product and Service Type Listing (cont.)**

Indicate the product and service type codes corresponding to your company's current business lines and indicate whether the end-user is "NASA," "DoD," "Commercial," "Other," or "Not Sure." Blank or "No" responses mean your company presently has no corresponding business lines.

B	Spacecraft	NASA	DoD	Commercial	Other	Not Sure
B1	Communications					
B1A	Antenna Technology					
B1B	Microwave Technology					
B1C	Digital Technology					
B1D	Switching Equipment					
B1E	Transponder					
B1F	Laser Technology					
B1G	Software					
B2	Energy Generation					
B2A	Solar Cell Technology					
B2B	Solar Array Technology					
B2C	Power Generators (Excluding Solar)					
B3	Energy Storage					
B3A	Batteries					
B3B	Other Energy Storage Equipment					
B3C	Power Conditioning					
B4	Thermal Control					
B4A	Blankets					
B4B	Coatings					
B4C	Cryogenics					
B4D	Heaters					
B4E	Radiators					
B4F	Insulation					
B4G	Heat Pipes					
B5	Structural					
B5A	Hydraulics, Valves, Actuators, Pneumatics					
B5B	Mechanisms (Gimbals, Antennas, Arrays, Masts, etc.)					
B5C	Safety, Destruction Technology, Pyrotechnics					
B5D	Metalworking					
B6	Attitude Determination and Control					
B6A	Sensors					
B6B	Stabilization Hardware					
B6C	Momentum Wheel					
B6D	Rendezvous and Docking					
B6D1	Navigation Using Lunar Bearings					

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B6E	Guidance, Navigation and Control					
B6E1	Automation for all Mission Phases					
B6E2	Autonomous Landing					
B6E3	Hazard Detection and Avoidance					
B6E4	Automated Rendezvous and Docking					
B6E5	Natural Feature Image Recognition					
B6E6	LIDAR Feature Recognition					
B6E7	Lunar Surface Navigation					
B6F	Software					
B7	Propulsion (Spacecraft)					
B7A	Chemical Propulsion Technology					
B7B	Electronic Propulsion Technology					
B7C	Cold Gas Propulsion Technology					
B7D	Non-Toxic Monopropellant					
B7E	HTPB (Hydroxyl-Terminated Polybutadiene)					
B7F	LOX/LH2 (Liquid Oxygen/Liquid Hydrogen Reaction Control System)					
B7G	LO2/LCH4 (Liquid Oxygen/Liquid Methane Propulsion System)					
B7H	Composite Nozzles					
B8	Payload					
B8A	Optical Components					
B8B	Infrared Detectors					
B8C	Visible Detectors					
B8D	Nuclear Detectors					
B8E	Hyper-Spectral Detectors					
B8F	Radar Components					
B8G	Software					
B8H	Atomic Clocks					
B8I	Microwave Instruments					
B9	Entry, Descent and Landing					
B9A	Deceleration					
B9B	Guidance Navigation and Control					
B9C	Thermal Protection					
B9D	Structural Support					
B9E	Landing					
B10	Other (specify)					
Comments:						
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**Section 2.d Product and Service Type Listing (cont.)**

Indicate the product and service type codes corresponding to your company's current business lines and indicate whether the end-user is "NASA," "DoD," "Commercial," "Other," or "Not Sure." Blank or "No" responses mean your company presently has no corresponding business lines.

C	Space Electronics	NASA	DoD	Commercial	Other	Not Sure
C1	Data Handling & Storage					
C2	Integrated Circuits/Semiconductors					
C3	Fiber Optics					
C4	Traveling Wave Tubes					
C5	Radiation-Hardened/Tolerant Electronics					
C5A	Field Programmable Gate Arrays					
C5B	Non-Volatile Memory					
C6	Fault Tolerant Computing					
C7	Memory					
C7A	Microprocessors					
C8	Micro-Sized Data Acquisition, Processing, and Storage					
C9	Other (specify) <input type="text"/>					
D	Computer Hardware and Software	NASA	DoD	Commercial	Other	Not Sure
D1	Development Tools					
D2	Verification and Validation					
D3	Design Level Re-Use					
D3A	Modeling and Analysis Tools of Physical Systems					
D3B	Modeling and Analysis Tools of Software Systems					
D3C	Compliance and Model Checkers					
D4	Data Mining and Knowledge Management					
D5	Training Support and Simulation					
D6	Mission Automation					
D6A	Operation					
D6B	Monitoring					
D7	Integrated Systems Health Management					
D7A	Prognostic/Diagnostic Tools					
D7B	Solid Rocket Motor Health Management					
D7C	On-Board Decision Support Tools					
D7D	Fault Isolation and Root Cause Determination Tools					
D8	High Performance (Super) Computing					
D8A	Large Scale Computational Simulations					
D8B	Data Visualization and Analysis					
D9	Other (specify) <input type="text"/>					

Comments:

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**Section 2.e Product and Service Type Listing (cont.)**

Indicate the product and service type codes corresponding to your company's current business lines and indicate whether the end-user is "NASA," "DoD," "Commercial," "Other," or "Not Sure." Blank or "No" responses mean your company presently has no corresponding business lines.

<b>E</b>	<b>Propulsion Systems</b>	<b>NASA</b>	<b>DoD</b>	<b>Commercial</b>	<b>Other</b>	<b>Not Sure</b>
E1	Liquid Fuel Rocket					
E1A	Chamber					
E1B	Propellant					
E1C	Igniter					
E1D	Nozzle					
E2	Solid Fuel Rocket					
E2A	Casing					
E2B	Igniter					
E2C	Propellant					
E2D	Nozzle					
E2E	Thrust Control					
E3	Electrical Power					
E3A	Generator					
E3B	Battery					
E3C	Harness					
E4	Operating System					
E4A	Hydraulic					
E4B	Pneumatic					
E4C	Electro-Mechanical					
E5	Guidance Systems					
E5A	GPS					
E5A1	Receivers					
E5A2	Processor					
E5B	Inertial					
E5B1	Gyroscope					
E5B2	Processor					
E5B3	Controls					
E6	Safety System					
E6A	Destruct Receiver					
E6B	Ordnance					
E6C	Navigation Devices					
E7	Structural System					
E7A	Inter-stage					

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E7B	Fairings					
E7C	Skirt					
E8	Launch Related Materials					
E8A	Ablatives					
E8B	Advanced Composites					
E8C	Fibers					
E9	Rocket Engines and Motors					
E9A	Solid					
E9B	Liquid					
E10	Cryogenic					
E10A	In-Space Storage					
E10B	In-Space Transfer					
E10C	In-Space Management					
E11	Telemetry					
E12	Software					
E13	Other (specify)					
Comments:						
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**Section 2.f Product and Service Type Listing (cont.)**

Indicate the product and service type codes corresponding to your company's current business lines and indicate whether the end-user is "NASA," "DoD," "Commercial," "Other," or "Not Sure." Blank or "No" responses mean your company presently has no corresponding business lines.

<b>F</b>	<b>Ground Systems</b>	<b>NASA</b>	<b>DoD</b>	<b>Commercial</b>	<b>Other</b>	<b>Not Sure</b>
F1	Ground Antennas					
F2	Telemetry, Tracking and Control Equipment					
F3	Software					
F4	Mission Data Processing Equipment					
F5	Communications Equipment					
F6	Other (specify) <input type="text"/>					
<b>G</b>	<b>Specialty Materials</b>	<b>NASA</b>	<b>DoD</b>	<b>Commercial</b>	<b>Other</b>	<b>Not Sure</b>
G1	Thermal Coatings					
G2	Optical Coatings					
G3	Dust Resistant Coatings					
G4	Protective Coatings					
G5	Structures					
G6	Substrates					
G7	Composites					
G8	Optics					
G9	Other (specify) <input type="text"/>					
<b>H</b>	<b>Structures</b>	<b>NASA</b>	<b>DoD</b>	<b>Commercial</b>	<b>Other</b>	<b>Not Sure</b>
H1	Friction Stir Welding and Spun Formed Dome					
H2	Composite Strut					
H3	Lunar Habitats					
H4	Long Life, Low Temperature Mechanical Systems					
H5	Lightweight High Strength Window Materials					
H6	Radiation Shielding					
H7	Tools to Determine Effect of Fields on Structures					
H8	Advanced Composites					
H9	Habitation Structures					
H10	Prototypes					
H11	Other (specify) <input type="text"/>					
<b>I</b>	<b>Protection Systems</b>	<b>NASA</b>	<b>DoD</b>	<b>Commercial</b>	<b>Other</b>	<b>Not Sure</b>
I1	Radiation Shielding Systems					
I2	Heat Shields					
I3	Bonding Systems					
I4	Free Flying Damage Protection System					

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I5	Analysis Tools					
I6	High Temperature Composites					
I7	Other (specify)					
<b>J</b>	<b>Dust Management</b>	<b>NASA</b>	<b>DoD</b>	<b>Commercial</b>	<b>Other</b>	<b>Not Sure</b>
J1	Dust Mitigation					
J2	Dust Removal					
J3	Lunar Regolith Stimulants Development and Production					
J4	Dust Tolerant Connectors					
J5	Other (specify)					
Comments:						
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**Section 2.g Product and Service Type Listing (cont.)**

Indicate the product and service type codes corresponding to your company's current business lines and indicate whether the end-user is "NASA," "DoD," "Commercial," "Other," or "Not Sure." Blank or "No" responses mean your company presently has no corresponding business lines.

K	Surface Systems	NASA	DoD	Commercial	Other	Not Sure
K1	Energy Storage					
K1A	Rechargeable Batteries					
K1B	Fuel Cells					
K1B1	PEM					
K1B2	Regenerative					
K2	Power Systems					
K2A	High Voltage Distribution					
K2B	Power Management					
K2C	Lightweight Cabling					
K2D	Lightweight, High Strength Solar Arrays					
K2E	Nuclear Fission					
K3	Thermal Control					
K3A	Phase Change Material					
K3B	Heat Rejection Systems					
K3C	Heat Sinks					
K3D	Heat Exchangers					
K3E	Long Duration Fluids					
K3F	Coldplate					
K4	Supportability					
K4A	Detection, Repair, and Self-Repair					
K4B	Non-Destruction Evaluation					
K4C	Light Weight, Lower Power Manufacturing					
K4D	Repair Tools and Techniques					
K5	Other (specify) <input type="text"/>					
L	Extra-Vehicular Activity (EVA)	NASA	DoD	Commercial	Other	Not Sure
L1	Space Suite					
L1A	Packaging					
L1B	Ventilation					
L1C	Oxygen Supply					
L1D	Thermal Control					
L1E	Communications, Avionics, and Informatics					
L1F	Dust Tolerant Fluid Connectors					
L1G	Materials and Pressure Garment Components					

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L1H	Rapid Recharge					
L2	CO2 and H2O Recovery					
L3	Suitport/Suitlock/Airlock					
L4	Other (specify) <input type="text"/>					
<b>M</b>	<b>Robotic Systems</b>	<b>NASA</b>	<b>DoD</b>	<b>Commercial</b>	<b>Other</b>	<b>Not Sure</b>
M1	Lunar Rover					
M1A	Wheels					
M1B	Automated Docking					
M1C	Drivetrain and Suspension System					
M1D	Active Suspension Control System					
M2	Automated Payload Offloading					
M3	High Dexterity Manipulation Systems					
M4	Element Mating Mechanism					
M5	Other (specify) <input type="text"/>					
<b>N</b>	<b>Environmental Control and Life Support (ECLS)</b>	<b>NASA</b>	<b>DoD</b>	<b>Commercial</b>	<b>Other</b>	<b>Not Sure</b>
N1	CO2 and Moisture Removal System					
N2	High Pressure Oxygen Supply					
N3	Wastewater Recovery					
N4	Oxygen Recovery from Carbon Dioxide					
N5	Biocides					
N6	Hygiene and Waste Removal Systems					
N7	Post-Fire Cleanup Device					
N8	Water Treatment					
N9	Other (specify) <input type="text"/>					
Comments: <input type="text"/>						
<b>BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act</b>						

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**Section 2.h Product and Service Type Listing (cont.)**

Indicate the product and service type codes corresponding to your company's current business lines and indicate whether the end-user is "NASA," "DoD," "Commercial," "Other," or "Not Sure." Blank or "No" responses mean your company presently has no corresponding business lines.

O	Environmental Monitoring and Control	NASA	DoD	Commercial	Other	Not Sure
O1	Atmospheric					
O1A	Particulate					
O1B	Microbial					
O1C	Fire					
O1D	Gases					
O2	Water					
O2A	Materials and Pressure Garment Components					
O2B	Rapid Recharge					
O3	CO2 and H2O Recovery					
O4	Suitport/Suitlock/Airlock					
O5	Other (specify) <input type="text"/>					
P	In-Situ Resource Utilization	NASA	DoD	Commercial	Other	Not Sure
P1	Regolith Excavation and Handling					
P2	Oxygen and Water Extraction from Regolith					
P3	Lunar Excavation					
P4	Mineral Mapping					
P5	Volatile (H, C, N, He) Extraction from Regolith					
P6	Other (specify) <input type="text"/>					
Q	Communications and Navigation	NASA	DoD	Commercial	Other	Not Sure
Q1	Lunar Wireless Network					
Q2	Delay Tolerant Networking					
Q3	Atomic Clocks					
Q4	Routers					
Q5	IPSec					
Q6	High Bandwidth Optical Communications					
Q7	Other (specify) <input type="text"/>					
R	End-User Equipment	NASA	DoD	Commercial	Other	Not Sure
R1	Communication/Data					
R2	Navigation					
R3	Other (specify) <input type="text"/>					
Comments: <input type="text"/>						

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<b>Section 3.a Future Outlook - NASA Supply Chain Network</b>		
A.	Is your company dependent on NASA-related business? Explain.	
B.	How will NASA's retirement of the Space Shuttle program and transition from Constellation affect your business? Explain.	
C.	Does your company have a plan in place to preserve its current capabilities and workforce in the post-Space Shuttle, post-Constellation program environment? Explain.	
D.	Has your company already modified its business plan and/or product lines in response to Space Shuttle retirement and/or Constellation transition? Explain.	
E.	Does your company plan to modify its business plan and/or product lines in response to Space Shuttle retirement and/or Constellation transition? Explain.	
F.	Does your company currently participate in commercial (non-NASA) human spaceflight programs? Explain.	
G.	In the future, will your company participate in commercial (non-NASA) human spaceflight programs? Explain.	
Comments:		
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<b>Section 3.b Future Outlook - NASA Supply Chain Network (cont.)</b>					
Will the loss of Space Shuttle or Constellation program business directly or indirectly affect your company's ability to maintain its business lines with other government customers? If "Yes," indicate which government customer and/or programs and explain.					
Agency		Yes/No	Explanation		
Central Intelligence Agency (CIA)					
Defense Advanced Research Projects Agency (DARPA)					
Director, Defense Research and Engineering (DDR&E)					
Federal Aviation Administration (FAA)					
A.	Missile Defense Agency (MDA)				
	NASA Centers/NASA Non-Human Space Flight Programs				
	National Oceanic and Atmospheric Administration (NOAA)				
	National Reconnaissance Office (NRO)				
	U.S. Air Force/Space and Missile Systems Center (SMC)				
	U.S. Army/Space and Missile Defense Command (SMDC)				
	U.S. Navy, Office of Naval Research (ONR)				
Other (specify)					
B.	Record the degree of compatibility of your overall NASA-related product lines with non-NASA customers and applications.				
C.	Have prime contractors affiliated with NASA programs provided your company any guidance on how to best respond to Space Shuttle retirement and/or Constellation transition? Explain.				
D.	Have NASA officials provided your company any guidance on how to best respond to Space Shuttle retirement and/or Constellation transition? Explain				
E.	Is your company willing to support future NASA human spaceflight programs after NASA's retirement of the Space Shuttle and transition from Constellation? Explain.				
Comments:					
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<b>Section 3.c Future Outlook - NASA Supply Chain Network (cont.)</b>				
<b>A.</b>	Identify what industry/market segments your company has served in the last 5 years.			
	1.			
	2.			
	3.			
	4.			
	5.			
<b>B.</b>	Identify what industry/market segments your company will target in the next 5-10 years.			
	1.			
	2.			
	3.			
	4.			
	5.			
<b>C.</b>	Describe the actions your company has taken in the last 5 years to improve its competitiveness.			
<b>D.</b>	Describe the actions your company plans to take to improve its competitiveness over the next 5 years.			
<b>E.</b>	In addition to retirement of the Space Shuttle and Constellation program transition, identify the main issues and challenges affecting the long-term viability of your company. Explain your response.			
	Domestic Competition		Healthcare	
	Environmental		Imports	
	Export Controls		R&D Tax Credit	
	Foreign Competition		Skills Retention	
	Government Regulations		Taxes	
	Other (specify)		Variability of Demand	
Comments:				
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<b>Section 3.d Future Outlook - NASA Supply Chain Network</b>		
A.	Identify what policy changes or regulatory reforms you recommend the U.S. Government implement to enhance your competitiveness.	
B.	Have you worked with any regional, state, local, or non-profit economic development agencies/ organizations to address the post-Space Shuttle, post-Constellation program environment? These might include Space Florida, the California Space Authority (CSA), Texas Space Grant Consortium (TSGC), or public/private universities. Explain.	
Comments:		
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**Section 4.a Relationships - NASA Supply Chain Network****Mergers and Acquisitions**

A. Identify your company's five most significant U.S. mergers and acquisitions from 2007 to date. Record the merged/acquired company's name(s) and location, the year the merger/acquisition occurred, and the primary objective of the merger/acquisition.

	Company Name	State	Year	Primary Objective
1.				
2.				
3.				
4.				
5.				

B. Identify your company's five most significant non-U.S. mergers and acquisitions from 2007 to date. Record the merged/acquired company's name(s) and location, the year the merger/acquisition occurred, and the primary objective of the merger/acquisition.

	Company Name	Country	Year	Primary Objective
1.				
2.				
3.				
4.				
5.				

Comments:

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**Section 4.b Relationships - NASA Supply Chain Network (cont.)****Joint Venture Relationships**

Identify your company's current NASA-related joint venture relationships, including public/private R&D partnerships. Provide the name of the company/entity involved, indicating whether a U.S. or non-U.S. enterprise, and a description of the joint venture's purpose, e.g. patent licensing, co-production, product integration, after-market support, etc. Then, indicate whether the joint venture is related to Space Shuttle, ISS, or Constellation programs.

A.	Company/Entity Name	U.S./Non-U.S.	Primary Objective of Relationship	Space Shuttle, ISS, or Constellation Program-Related?
	1.			
	2.			
	3.			
	4.			
	5.			

**Competition**

Identify your company's leading U.S. and non-U.S. competitors. Record the name, location, and corresponding Product and Service Type Codes relating to the competition.

Name and Location of Five U.S. Competitors		System/Part/Component/Material/Service				
Company Name	State	1	2	3	4	5
1.						
2.						
3.						
4.						
5.						
Name and Location of Five Non-U.S. Competitors		System/Part/Component/Material/Service				
Company Name	Country	1	2	3	4	5
1.						
2.						
3.						
4.						
5.						

Comments:

**BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act****Do Not Submit - Excel Only!**

**Section 4.c Relationships - NASA Supply Chain Network (cont.)****U.S. and Non-U.S. Supplier Relationships**

Identify your company's ten most significant U.S. and non-U.S. supplier relationships that support NASA programs, directly or indirectly. Record the names and locations of the ten supplier facilities. Do not include internal company suppliers. Then, select the top 5 most significant codes corresponding to the part, component, material, or service supplied to your company by each supplier. Lastly, indicate if the supplied systems, parts, components, materials, or services are used in Space Shuttle, ISS, or Constellation programs.

Name and Location of Ten U.S. Suppliers		System/Part/Component/Material/Service					Space Shuttle, ISS, or Constellation Program-Related?	
	Company Name	State	1	2	3	4		5
A.	1.							
	2.							
	3.							
	4.							
	5.							
	6.							
	7.							
	8.							
	9.							
	10.							
Name and Location of Ten Non-U.S. Suppliers		System/Part/Component/Material/Service					Space Shuttle, ISS, or Constellation Program-Related?	
	Company Name	Country	1	2	3	4		5
B.	1.							
	2.							
	3.							
	4.							
	5.							
	6.							
	7.							
	8.							
	9.							
	10.							
Comments:								
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<b>Section 4.d Relationships - NASA Supply Chain Network (cont.)</b>			
<b>NASA Customers</b>			
Identify the NASA facilities/centers/laboratories your company has served in any production or service capacity since 2007. If you do not know which facilities/centers/laboratories your company has served, indicate this in the box below.			
We do not know which ones have been served			
A.	1.	Ames Research Center - Moffett Field, California	
	2.	Dryden Flight Research Center - Edwards, California	
	3.	Glenn Research Center - Cleveland, Ohio	
	4.	Goddard Space Flight Center - Greenbelt, Maryland	
	5.	Goddard Institute of Space Studies - New York, New York	
	6.	IV and V Facility - Fairmont, West Virginia	
	7.	Jet Propulsion Laboratory - Pasadena, California	
	8.	Johnson Space Center - Houston, Texas	
	9.	Kennedy Space Center - Cape Canaveral, Florida	
	10.	Langley Research Center - Hampton, Virginia	
	11.	Marshall Space Flight Center - Huntsville, Alabama	
	12.	Michoud Assembly Facility - New Orleans, Louisiana	
	13.	NASA Headquarters - Washington, DC	
	14.	Plum Brook Station - Sandusky, Ohio	
	15.	Stennis Space Center - Mississippi	
	16.	Wallops Flight Facility - Wallops Island, Virginia	
	17.	White Sands Test Facility - Las Cruces, New Mexico	
	18.	Other (specify)	
	19.	Other (specify)	
	20.	Other (specify)	
Comments:			
<b>BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act</b>			

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**Section 5.a Operations - NASA Supply Chain Network**

<b>Product Capacity Utilization</b>				
Record your company's annual overall production capacity utilization for 2007-2009, and projected rate for 2010.				
Note: Indicate whether Business Unit/Division or Corporate/Whole Company-level data.				
A.	Note: If you do not manufacture but perform only services or R&D, select "Yes" here and proceed to the next question.			
	Level of Reporting:			
	2007	2008	2009	2010*
	Production Capacity Utilization Rate (%)			
* If data is not available for 2010, please provide estimates.				
<b>Supply Chain Management</b>				
From the list below, select the supply chain management practices, methodologies, and systems that your company uses.				
B.	1. Advanced Planning System (APS)		18. Network Centric Manufacturing	
	2. Bar Coding		19. Outsourcing	
	3. Close Partnership with Customers		20. Plan Strategically	
	4. Close Partnership with Suppliers		21. Radio Frequency Identification (RFID)	
	5. Customer Relationships Management (CRM)		22. Subcontracting	
	6. Decision Support/Expert System		23. Supplier Relationships Management (SRM)	
	7. E-business		24. Supply Chain Benchmarking	
	8. E-commerce		25. Supply Chain Management (SCM)	
	9. Electronic Data Interchange (EDI)		26. Theory of Constraints (TOC)	
	10. Enterprise Resource Planning (ERP)		27. Third Party Logistics (3PL)	
	11. E-procurement		28. Use of External Consultants	
	12. Few Suppliers		29. Vendor Managed Inventory (VMI)	
	13. Hold Safety Stock		30. Vertical Integration	
	14. Just in Time (JIT)		31. Warehouse Management System (WMS)	
	15. Manufacturing Resources Planning (MRPII)		32. Other (specify)	
	16. Many Suppliers		33. Other (specify)	
	17. Materials Requirements Planning (MRP)		34. Other (specify)	
Comments:				
<b>BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act</b>				

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**Section 5.b Operations - NASA Supply Chain Network (cont.)**

<b>Machinery, Tooling, Facilities</b>					
Does your company currently own or lease any machinery, tooling, or facilities specifically for NASA Space Shuttle, International Space Station (ISS), or Constellation program-related business?					
If "Yes," record [1] all related machinery, tooling, and/or facilities; [2] the use/purpose of each item; [3] whether the item was purchased, leased, or government furnished equipment (GFE), or combination thereof; [4] whether the item currently supports Space Shuttle, ISS, Constellation program-related business lines, or a combination thereof; and [5] the current status of the machine/tool/facility (e.g. idle, mothballed, in-use, re-tooled/re-built for non-NASA business lines, etc.).					
Note: Indicate whether Business Unit/Division or Corporate/Whole Company-level data.					
Level of Reporting:					
A.	Machine/Tool/Facility	Use/Purpose	Level of Ownership	Program Use	Current Status
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
B.	Provide the first and most recent year of your company's receipt of a Space Shuttle-related NASA production or service order.			First	Most Recent
Comments:					
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Section 6.a Financial Health - NASA Supply Chain Network											
Sales Table											
Provide your company's 2007-2010 sales information and projected 2011-2015 sales trend information.											
Note: Calendar year data is preferred.											
Source of Sales Data:											
Reporting Schedule:											
"U.S." means U.S. domestic sales; "Non-U.S." means export sales from U.S. located facilities				Record in \$ Thousands, e.g. \$12,000.00 = survey input \$12							
		2007		2008		2009		2010*		2011-2015*	
		U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.
A.	Total Sales, all Customers										
B.	Total Non-Government Sales (as a % of part A)										
C.	Total Government Sales (as a % of part A)										
D.	Total NASA Sales, all Programs										
E.	NASA Non-Human Space Flight										
F.	NASA Human Space Flight										
G.	Human Space Flight Categories	Total Space Shuttle (as a % of part F)									
	Total ISS (as a % of part F)										
	Total Constellation Program (as a % of part F)										
* If data is not available, please provide estimates.											
Comments:											
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**Section 6.b****Financial Health - NASA Supply Chain Network (cont.)****Top 10 Customers**

Identify your company's ten most significant space-related customers (e.g. government, commercial, other) by dollar amount for years 2007-2010. Record the individual customer names and the dollar amount corresponding to aggregate sales from 2007-2010. Do not include internal customers.

A.	Source of Customer Data:		
	Customer Name	U.S. or Non-U.S. Customer	2007-2010* Aggregate Dollar Sales
	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
	7.		
	8.		
	9.		
	10.		

\* If data is not available, please provide estimates.

Comments:

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<b>Section 6.c Financial Health - NASA Supply Chain Network (cont.)</b>					
<b>Export Sales</b>					
Record the country of destination for your company's space-related export sales in 2007-2010. Note: Calendar year data is preferred.					
If your company has not exported space-related export products or services since 2007, indicate so here:					
Source of Export Sales Data:					
Reporting Schedule:					
Country		Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12			
		2007	2008	2009	2010*
A.	1.				
	2.				
	3.				
	4.				
	5.				
	6.				
	7.				
	8.				
	9.				
	10.				
* If data is not available for 2010, please provide estimates.					
<b>Export Controls</b>					
B.	Have you decided to stop exporting space-related products or services because of past experiences with U.S. export license denials, conditions, or extended delays? Explain.				
C.	Have you lost export sales opportunities of space-related products or services to non-U.S. competitors because of U.S. export controls? If "Yes," select the total dollar amount of lost export sales opportunities from 2007-2010. Explain.			Yes/No	Lost Sales
Comments:					
<b>BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act</b>					

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**Section 6.d Financial Health - NASA Supply Chain Network (cont.)**

Report select line items from your company's financial statement for years 2007-2010. From the drop-down indicate whether the reported income statement and balance sheet select line items are Business Unit/Division or Corporate/Whole Company financials.

Note: Business Unit/Division financials are preferred.

Note: Calendar year data is preferred.

Source of Financial Line Items:					
Reporting Schedule:					
Income Statement (Select Line Items)		Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12			
		2007	2008	2009	2010*
A.	Net Sales (and other revenue)				
B.	Cost of Goods Sold				
C.	Total Operating Expenses				
D.	Total Operating Income (Loss)				
E.	Total Other Income (Expenses)				
F.	Earnings Before Interest and Taxes				
G.	Interest Expense				
H.	Income Tax Expense				
I.	Net Income				
Balance Sheet (Select Line Items)		Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12			
		2007	2008	2009	2010*
A.	Cash				
B.	Marketable Securities				
C.	Accounts Receivable				
D.	Inventories				
E.	Total Current Assets				
F.	Property, Plant, and Equipment				
G.	Total Non-Current Assets				
H.	Total Assets				
I.	Accounts Payable				
J.	Total Current Liabilities				
K.	Long-Term Debt (less current portion)				
L.	Total Non-Current Liabilities				
M.	Total Liabilities				
N.	Total Owner's Equity				
* If data is not available for 2010, please provide estimates.					
Comments:					
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act					

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<b>Section 6.e Financial Health - NASA Supply Chain Network (cont.)</b>		
<b>Financial Statements (cont.)</b>		
Use the space below to qualify with narrative any anomalies, transactions, or non-recurring events reflected in your financial statement line items, e.g. reporting restatement, merger and acquisition, chapter 11, SEC investigation, etc.		
A.	2007	
B.	2008	
C.	2009	
D.	2010	
Comments:		
<b>BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act</b>		

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[Previous Page](#)[Table of Contents](#)[Next Page](#)**Section 7.a Employment - NASA Supply Chain Network**

Record the total number of full time equivalent (FTE) employees in your U.S./domestic operations by labor type for the 2007-2010 period. Do not double count personnel who may perform cross-operational roles.

Note: "Total in U.S. Operations" should comprise all preceding labor categories. If not, please indicate why in the comment box.

Source of Operational Data:					
Reporting Schedule:					
A.	Professional Occupations	2007	2008	2009	2010*
	1. Administrative Staff				
	2. Production Managers/Supervisors/Executives				
	3. Research and Development (R&D) Staff				
	4. Production Line Workers, Support Technicians				
	5. Quality Control, Test Operations				
	6. Sales and Marketing				
	7. Facility Operations, Maintenance				
	8. IT/Network Engineers				
	9. Other (specify) _____				
	10. Other (specify) _____				
	11. Total in U.S. Operations				
	12. Total Number of Scientists				
	13. Total Number of Engineers				
* If data is not available for 2010, please provide estimates.					
<b>Personnel Description</b>					
B.	Estimate the percentage of your company's total personnel in U.S. operations who participate (at any level) in Space Shuttle and Constellation program-related work?	Space Shuttle	Constellation Program		
Comments:					
<b>BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act</b>					

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<b>Section 7.b Employment - NASA Supply Chain Network (cont.)</b>					
A.	From the drop-down list of professional occupations, indicate what categories of personnel are the most difficult to hire and retain. Explain.		Difficult to Hire	Difficult to Retain	
B.	Identify your company's critical personnel skills and competencies, i.e. expertise that is critical to your company's viability and long-term competitiveness.				
	1.				
	2.				
	3.				
	4.				
C.	From the above list, which does your company consider its unique skills and competencies? Explain.				
	1.				
	2.				
	3.				
	4.				
D.	Does your company have production and/or inspection personnel that possess formal qualifications/certifications necessary for doing business with NASA, e.g. Non-Destructive Testing, Soldering Workmanship, etc.?				
	Provide examples of such qualifications/certifications.				
	1.		5.		
	2.		6.		
	3.		7.		
	4.		8.		
E.	Does your company require its suppliers to maintain these same qualifications/certifications? Identify any additional qualifications/certifications your company requires of its suppliers below.				
	1.		5.		
	2.		6.		
	3.		7.		
	4.		8.		
Comments:					
<b>BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act</b>					

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**Section 8 Research and Development - NASA Supply Chain Network****R&D Expenditures and R&D Funding Sources**

Record your company's total research and development (R&D) dollar expenditures and the percentage of total R&D expenditures relating to NASA business lines. Then, indicate both the type of R&D performed, by percent allocation, and your company's R&D funding sources, by percent of total R&D dollars sourced.

Note: If your company's annual Total R&D Expenditures and Total R&D Funding Sources do not match, explain the discrepancy in the space provided.

Note: Calendar year data is preferred.

Source of R&D Data:					
R&D Reporting Schedule:					
R&D Expenditures		Record \$ in Thousands, e.g. \$12,000.00 = survey input of \$12			
		2007	2008	2009	2010*
A.	1. Total R&D Expenditures				
	2. Basic Research (as a percent of 1)				
	3. Applied Research (as a percent of 1)				
	4. Product/Process Development (as a percent of 1)				
	5. Total (must equal 100%)	0%	0%	0%	0%
	6. % of Total R&D Expenditures relating to NASA business lines				
R&D Funding Sources		Record \$ in Thousands, e.g. \$12,000.00 = survey input of \$12			
		2007	2008	2009	2010*
B.	1. Total R&D Funding Sources				
	2. Internal/Self-Funded/IRAD (as a percent of 1)				
	3. Total Federal Government (as a percent of 1)				
	4. Total State and Local Government (as a percent of 1)				
	5. Universities - Public and Private (as a percent of 1)				
	6. U.S. industry, venture capital, non-profit (as a percent of 1)				
	7. Non-U.S. investors (as a percent of 1)				
	8. Other (specify)				
* If data is not available for 2010, please provide estimates.					
Comments:					
<b>BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act</b>					

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<b>Section 9 Investment - NASA Supply Chain Network</b>				
<b>Capital Expenditures</b>				
Record your company's capital expenditures corresponding to the select categories.				
Note: Calendar year data is preferred.				
Source of Capital Expenditure Data:				
Capital Expenditure Reporting Schedule:				
Capital Expenditure Category	Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12			
	2007	2008	2009	2010*
1. Total Capital Expenditures				
2. Machinery, Equipment, and Vehicles (as a percent of 1)				
3. IT, Computers, Software (as a percent of 1)				
4. Land, Buildings, and Leasehold Improvements (as a percent of 1)				
5. Other (specify)				
6. Other (specify)				
7. % of Total Capital Expenditures relating to NASA business lines				
* If data is not available for 2010, please provide estimates.				
Comments:				
<b>BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act</b>				

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